

FIG. 1A

A			
SMURF1	1	M S N V V T R R G G S S I R V R L T V L C A K N L A K R D	
hSMURF1	1	- - - - - G G S S I K I R L T V L C A K N L A K K D	
PUB1	1	M S N S A Q S R - - - - R I R V I I V A I A D G L Y K R D	
SMURF1	61	K W N Q H Y D L Y V G K M D S I T I S I W N H K K I H K K	
hSMURF1	61	K W N Q H Y D L Y V G K T D S I T I S V W N H K K I H K K	
PUB1	55	Y W N E T F E V N V T D N S T I A I Q V F D Q K K F K K K	
SMURF1	121	L N P T D N D A V R G Q I V V S L Q T R D R I G T L G S V	
hSMURF1	121	L N P S D T D A V R G Q I V V S L Q T R D R I G T L G S V	
PUB1	114	K K S N E N T V V H G K I I I N L S I T A Q S T L Q V P S	
SMURF1	174	C F M D E P A P Y T D G P G A A G G G P G R L V E S P G	
hSMURF1	174	C F M E E P A R Y T D S T G A A A G G G N G R F V E S P S	
PUB1	174	S R A G S P T R D N A P A A S P A S S E P R T F S S F E P	
SMURF1	216	V R E H V Q T P Q	N R S H G F
hSMURF1	217	V R G S L Q T P Q	N R P H G H
PUB1	234	I R P N L S S V A G A A A A E L H S S A S S A N V T E G V	
SMURF1	239	Y E Q R T T V Q G Q V Y F L H T Q T G V S T W H D P R	
hSMURF1	240	Y E Q R T T V Q G Q V Y F L H T Q T G V S T W H D P R	
PUB1	294	W E Q R Y T P E G R P Y F V D H N T R T T T W V D P R R Q	
SMURF1	288	R T T V S G R I Y F V D H N N R T T Q F T D P R L H H I I	
hSMURF1	289	R S T V S G R I Y F V D H N N R T T Q F T D P R L H H I M	
PUB1	354	R L T N T A R V Y F V D H N T K T T T W D D P R L P S S L	
B			
			A

FIG. 1B

A	F F R L P D P F A K I V V D G S G Q C H S T D T V K N T L D P	60
	F F R L P D P F A K I V V D G S G Q C H S T D T V K N T L D P	60
	V F R F P D P F A V L T V D G E - Q T H T T T A I K K I L N P	54
	Q G A G F L G C V R L L S N A I S R L K D T G Y Q R L D L C K	120
	Q G A G F L G C V R L L S N A I S R L K D T G Y Q R L D L C K	120
	T G Q G F L G V I N L R V G D V L D L A I G C D E M L T R D L I I I	111
	V D C R G L L D N E G A L L E D	173
	V D C R G L L E N E G T V Y E D	173
	S A S G A R T Q R T S I T N D P Q S S K S G S V S R N P A S	173
	Q E Q R L Q A Q R V R G P E	215
	Q D Q R L Q A Q R L R N P D	216
	Q Y G R L P P G W E R R T D N L G R T Y Y V D H N T R S T T W	233
	Q Q P S S N A A R R T E A S V L T S N A T T A G S	238
	S Q D L P E G	238
	S P E L P E G	239
	T P R D L N S V N	287
	I P R D L N S V N	288
	Q Y I R S Y G G P N N A T I Q Q Q P V S Q L G P L P S G W E M	353
	N H Q S Q L K E P N H A I P V Q S D G S L E D G D E F P A Q R	347
	N H Q C Q L K E P S Q P L P S E G S L E D E E L P A Q R	347
	D Q N	388
C	A	

FIG. 1C

B		D	
SMURF 1	348	Y E R D L V Q K L K V L R H E L S L	L Q P Q A G H C R V E
hSMURF 1	348	Y E R D L V Q K L K V L R H E L S L	Q Q P Q A G H C R I E
PUB 1	389	Y K R D F R R K L K Y F L S Q P A L H	P L P G Q C H I K
SMURF 1	408	G E E G L D Y G G V A R E W L Y L L C H E M L N P Y Y G L	
hSMURF 1	408	G E E G L D Y G G V A R E W L Y L L C H E M L N P Y Y G L	
PUB 1	448	G E D G L D Y G G L S R E Y F F L L S H E M F N P F Y C L	
SMURF 1	468	R I M G L A V F H G H Y I N G G F T V P F Y K Q L L G K P	
hSMURF 1	468	R I M G L A V F H G H Y I N G G F T V P F Y K Q L L G K P	
PUB 1	508	R V I G L A I F H R R F V D A F E V V S F Y K M I L Q K K	
SMURF 1	528	T F C V E H N A F G R L L Q H E L K P N G K N L Q V T E E	
hSMURF 1	528	T F C V E H N A F G R I L Q H E L K P N G R N V P V T E E	
PUB 1	568	T F S V E D N C F G E V V T I D L K P N G R N I E V T E E	
SMURF 1	588	L I P Q H L L K P F F E Q K E L E L I I G G L D K I D I S D	
hSMURF 1	588	L I P Q H L L K P F D Q K E L E L I I G G L D K I D L N D	
PUB 1	627	L I P Q E L I N V F D E R E L E L I I G G I S E I D M E D	
SMURF 1	648	R A R L L Q F V T G S T R V P L Q G F K A L Q G S T G A A	
hSMURF 1	648	R A R L L Q F V T G S T R V P L Q G F K A L Q G S T G A A	
PUB 1	687	K S R L L Q F T I T G T S R I P V N G F K D L Q G S D	
SMURF 1	708	Y E S Y E K L Y E K L L T A V E E T S G F A V E	731
hSMURF 1	708	Y E S Y E K L Y E K L L T A V E E T C G F A V E	731
PUB 1	743	Y T S K K D L D H K L S I A V E E T I G F G Q E	766

FIG. ID

D	C	VSRREEIFEESYRQIMKMRPKDLKKRLMVKFR	407
		VSRREEIFEESYRQIMKMRPKDLKKRLMVKFR	407
		VRRNHIFEDSYAEIMRQSA TD LKKRLMIKFD	447
D	C	FQYSTDNLYTLQINPDSSINPDHLSYFHFVG	467
		FQYSTDNLYTLQINPDSSINPDHLSYFHFVG	467
		FEXSSVDNLYTLQINPDHSGINPEHLNLYFKFI	507
D	C	IQLSDLESVDPELHKSLVWILENDIT	527
		IQLSDLESVDPELHKSLVWILENDIT	527
		VITLQDMESMDAEY YRSLVWILENDIT	567
D	C	NKKEYVRLYVNWRFMRGI EAQFLALQKGFNE	587
		NKKEYVRLYVNWRFMRGI EAQFLALQKGFNE	587
		NKREYV D LVT V W I Q K R I E E Q F N A F H E G F S E	626
D	C	WKA N T R L K H C L A N S N I V Q W F W Q A V E S F D E E R	647
		WKS N T R L K H C V A D S N I V R W F W Q A V E T F D E E R	647
		W K K H K D Y R S Y S E N D Q I I K W F W E L M D E W S N E K	686
D	C	G P R L F T I H L I D A N T D N L P K A H T C F N R I D I P P	707
		G P R L F T I H L I D A N T D N L P K A H T C F N R I D I P P	707
		G P R K F T I E K A G E P N K L P K A H T C F N R L Q L P P	742

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FIG. 2A

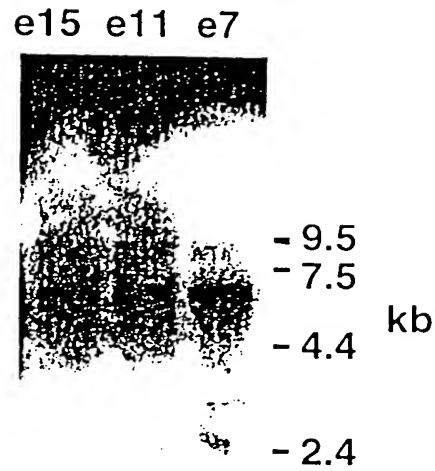
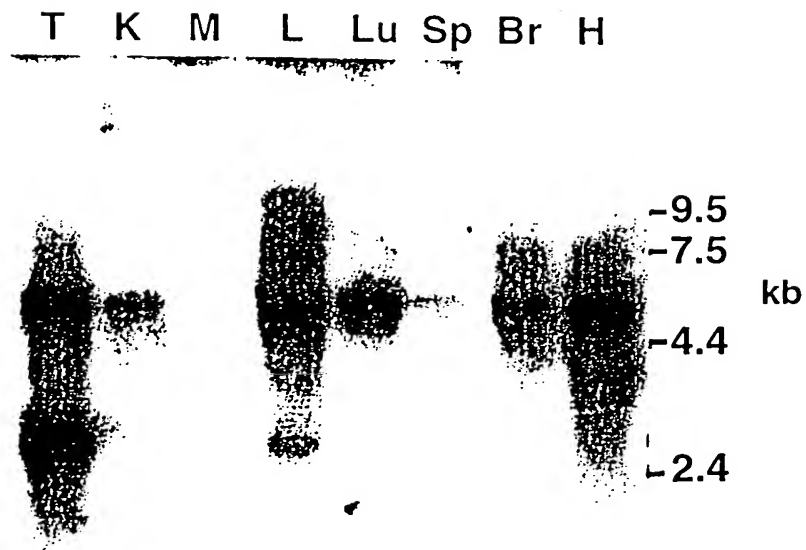
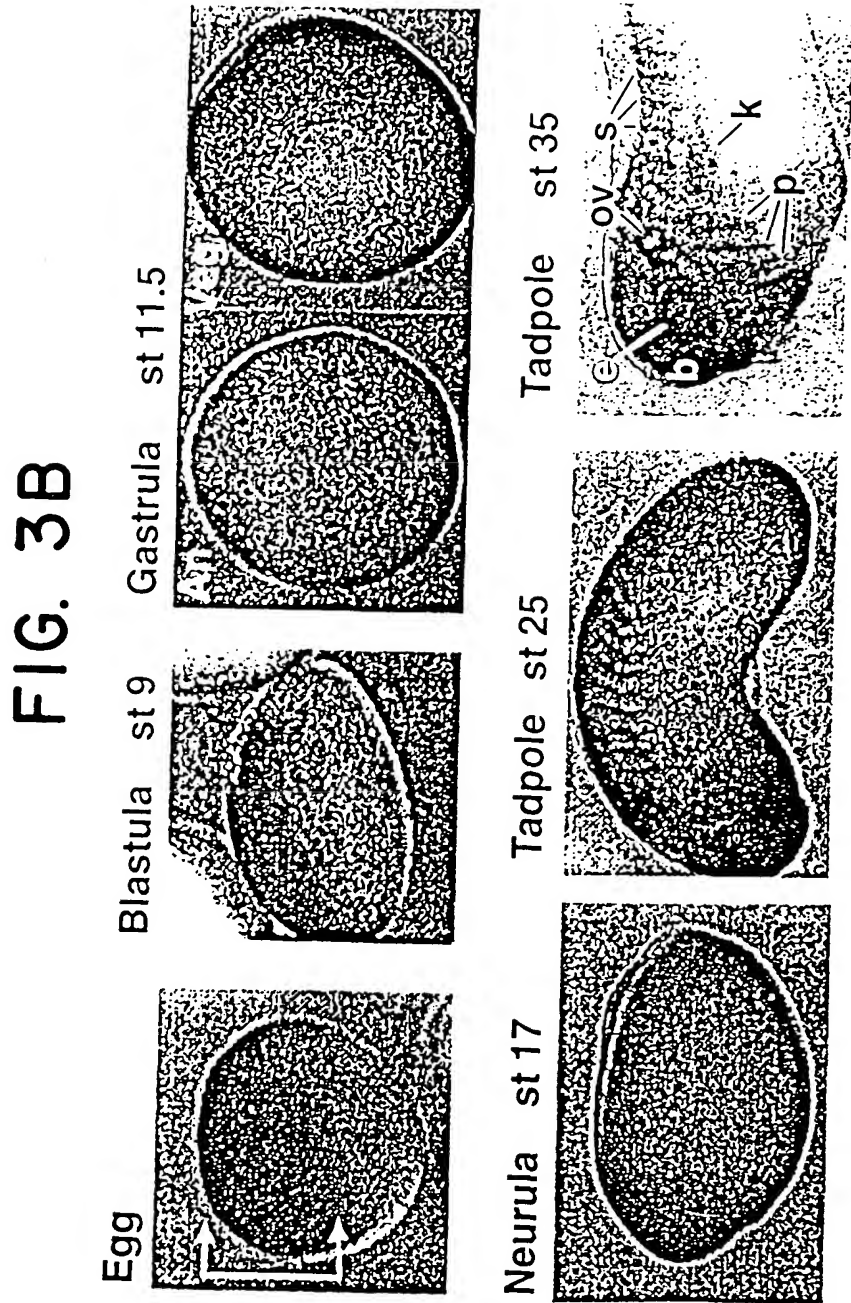
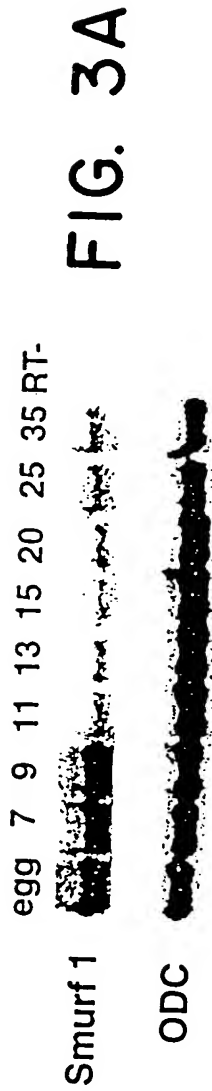


FIG. 2B



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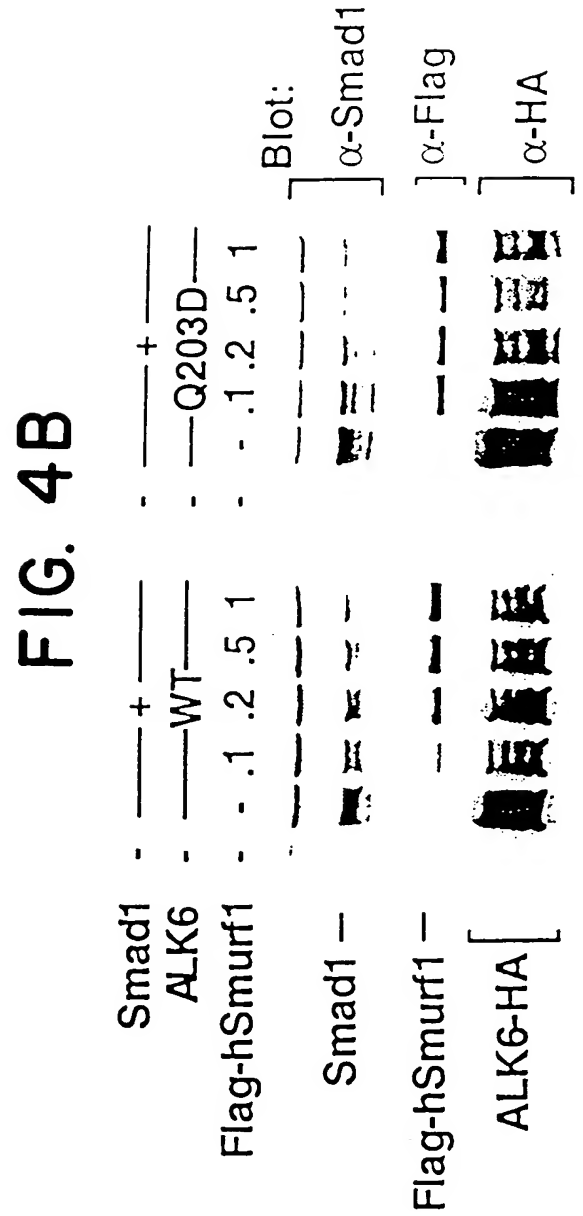


FIG. 4C

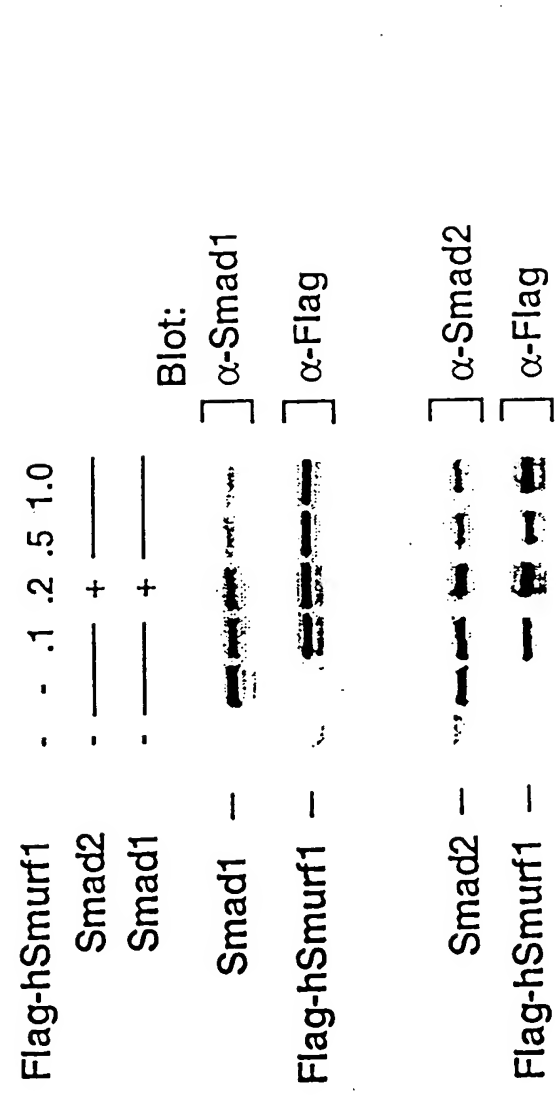
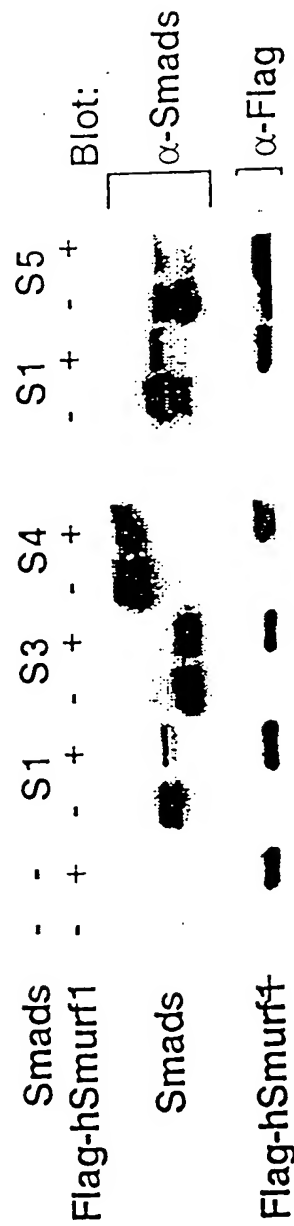


FIG. 4D



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FIG. 5A

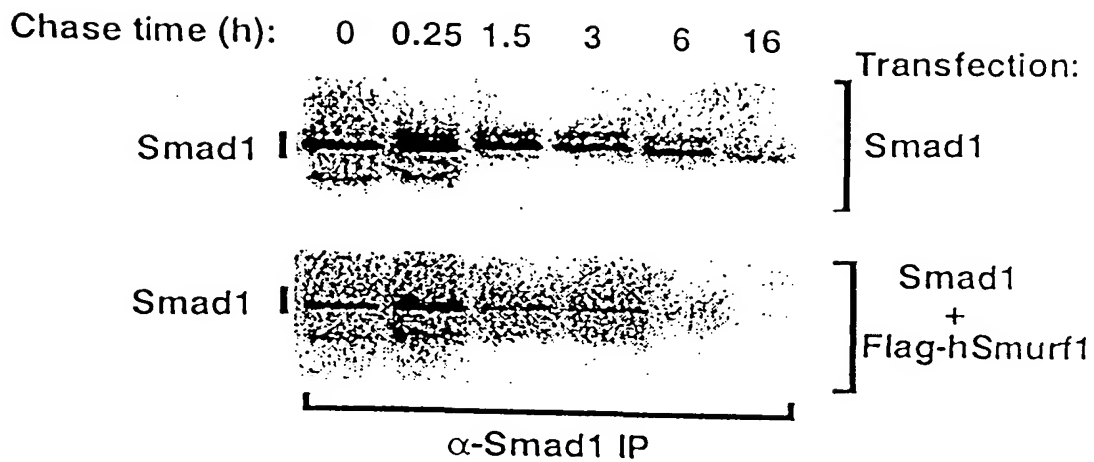
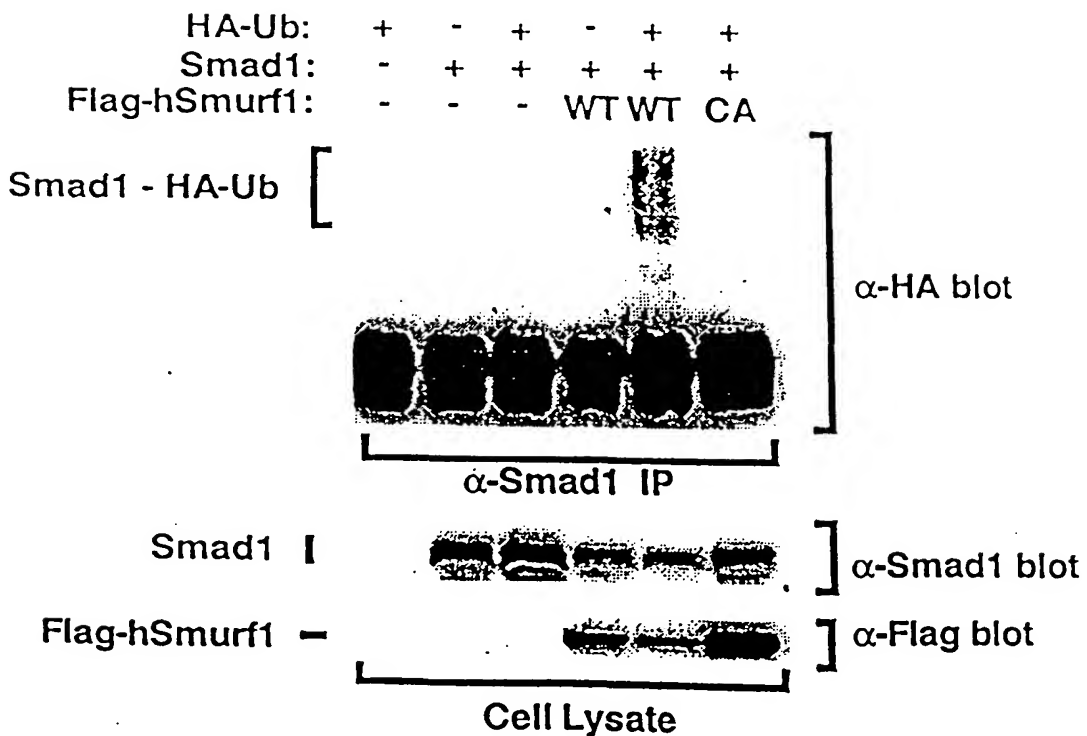


FIG. 5B



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FIG. 5C

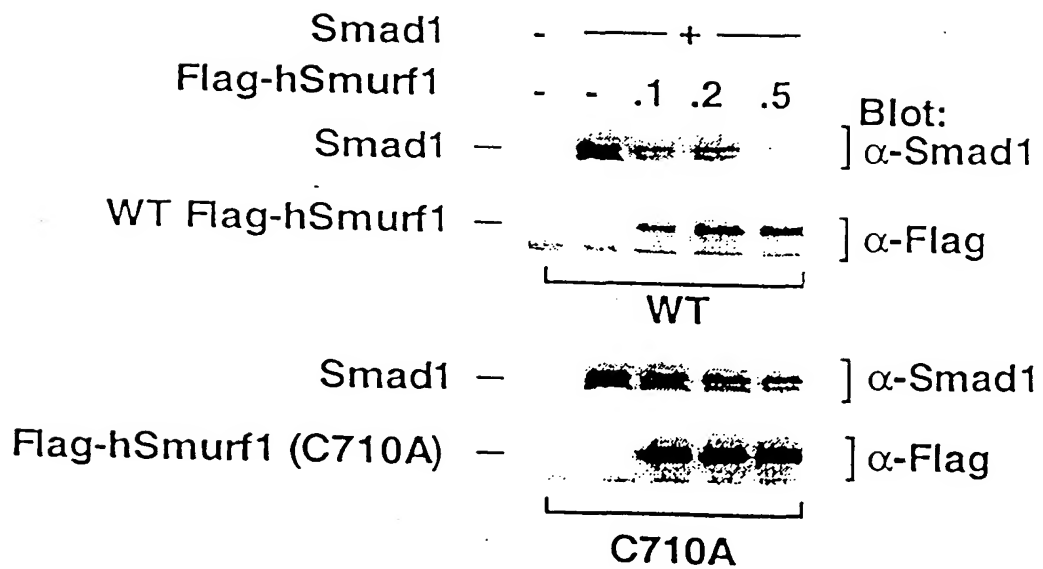
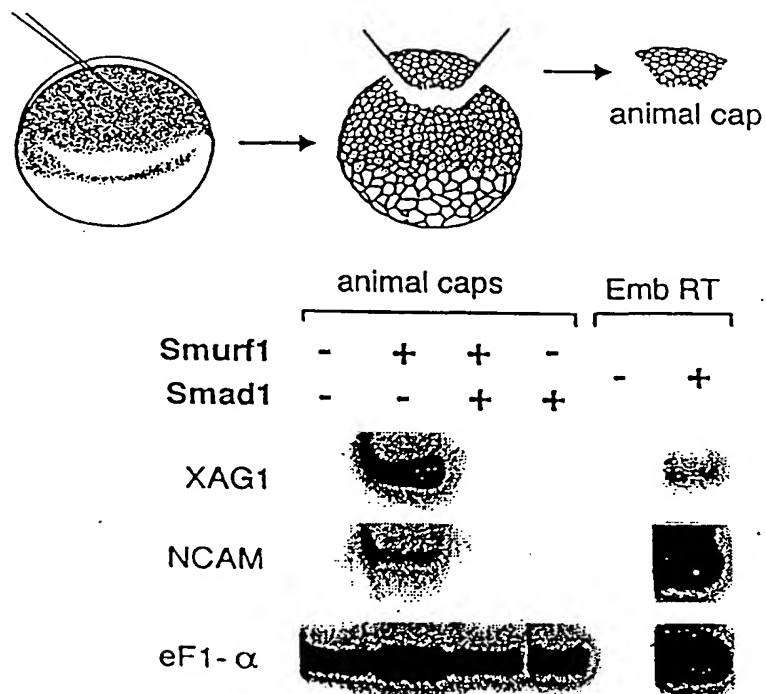
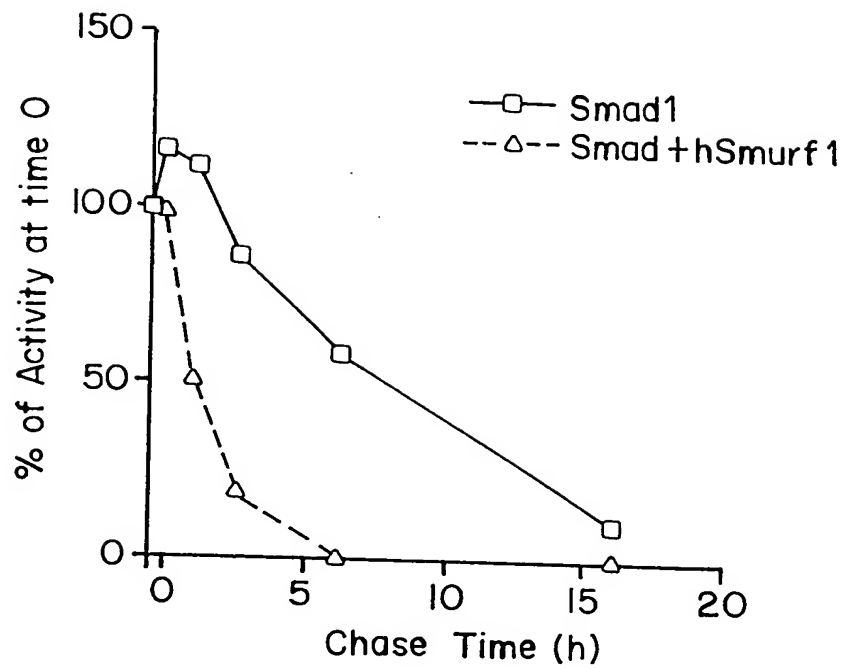


FIG. 7B



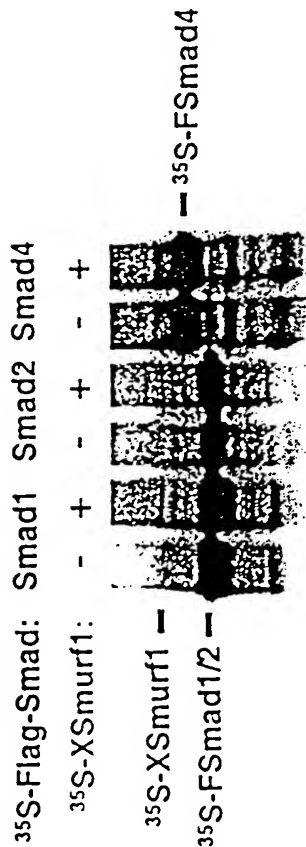
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FIG. 5d



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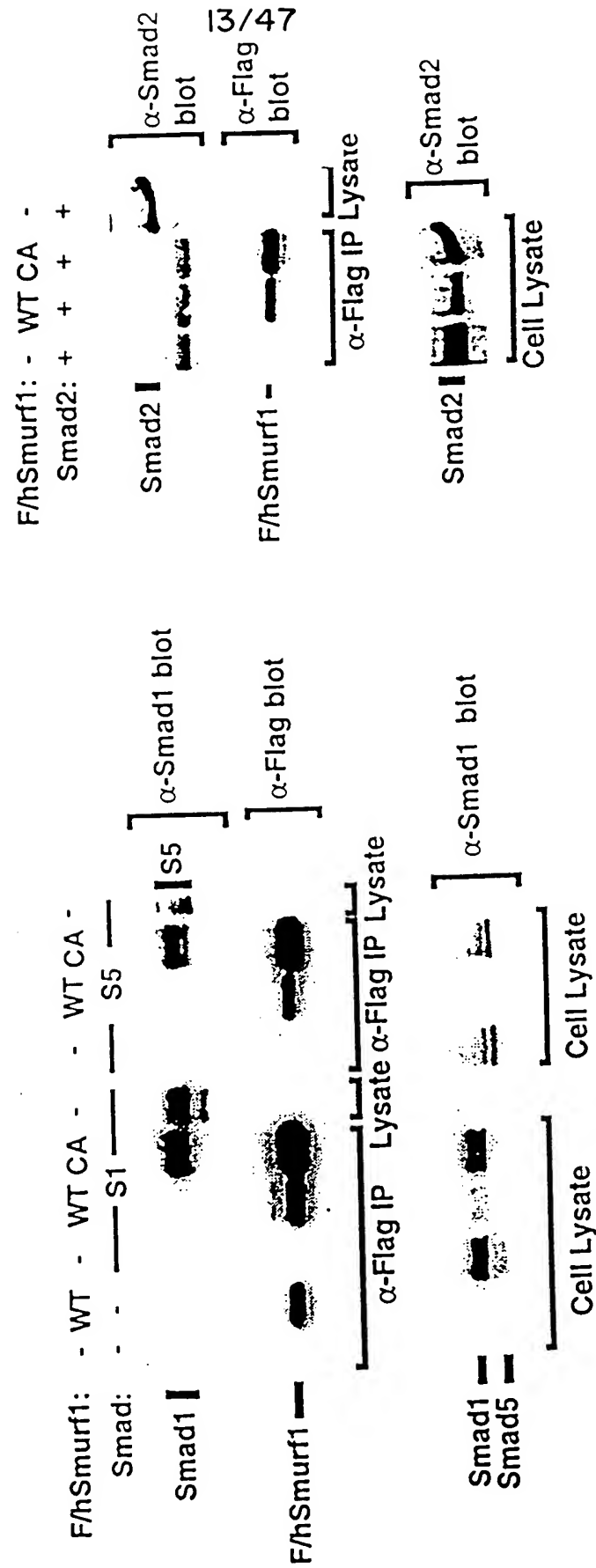
FIG. 6A

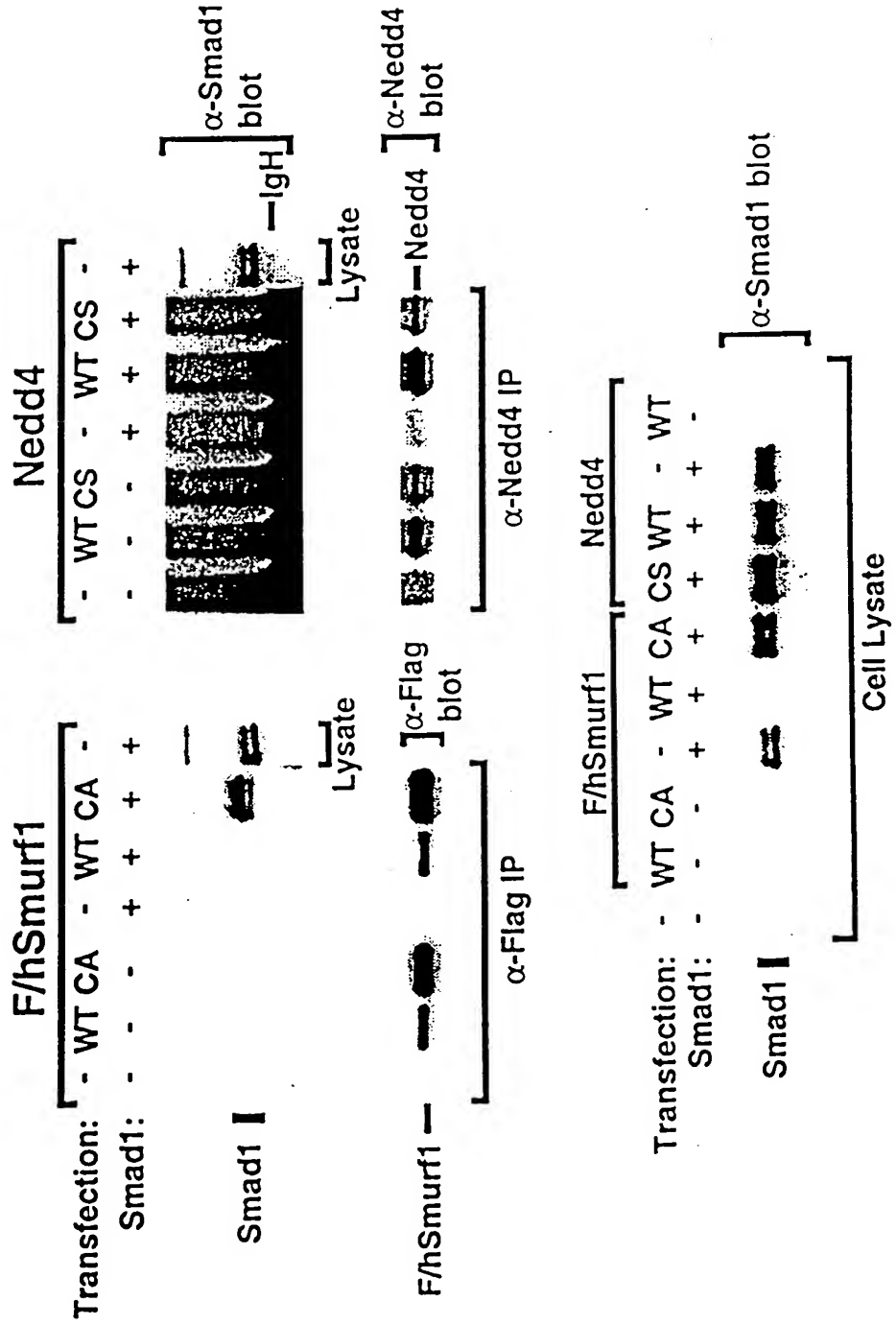


Smad1 Smad4 lamin pGBT9



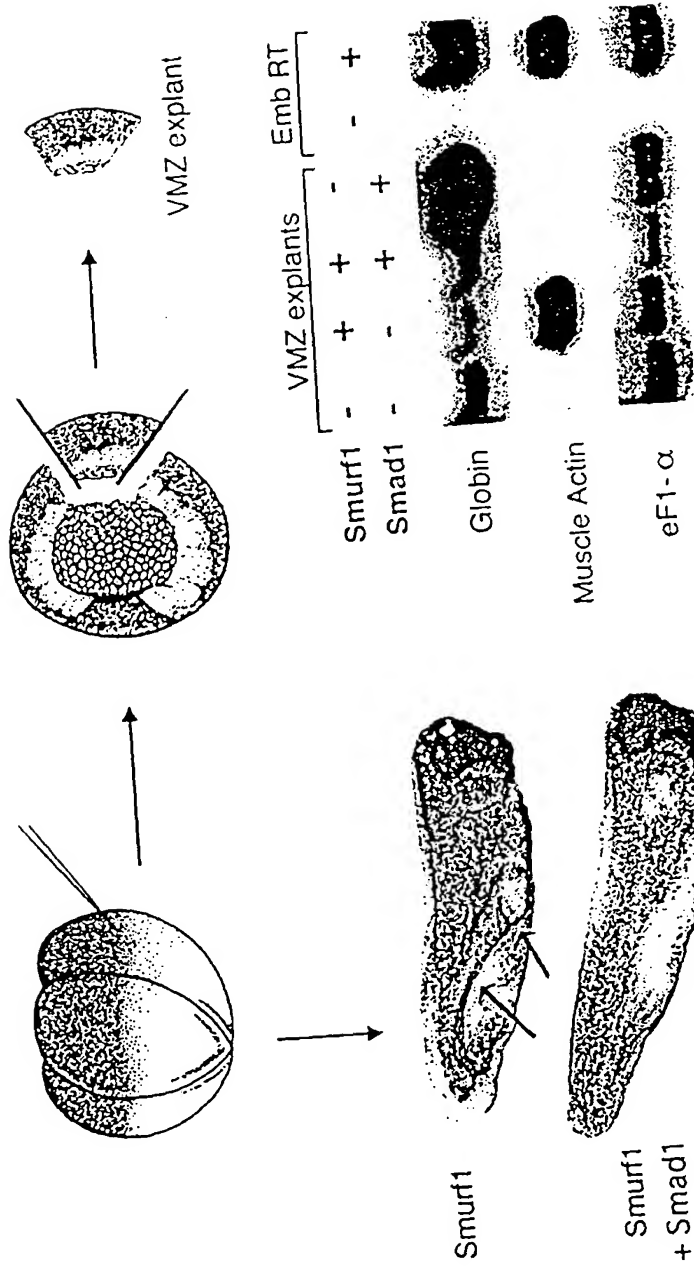
FIG. 6B





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FIG. 7A



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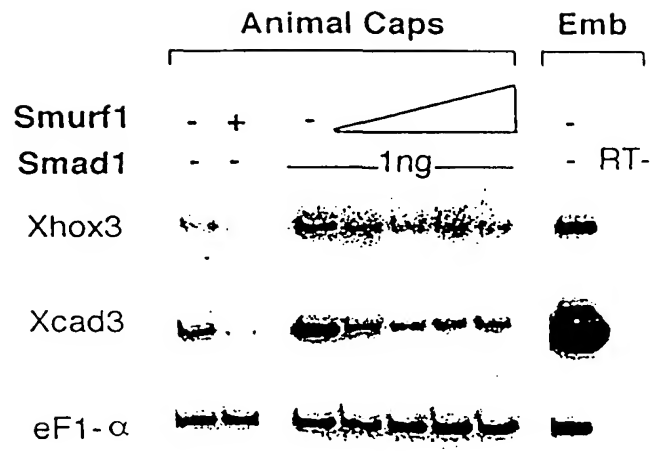


FIG. 8A

FIG. 8B

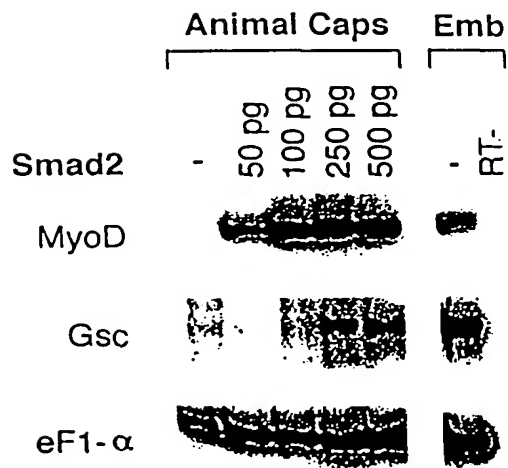
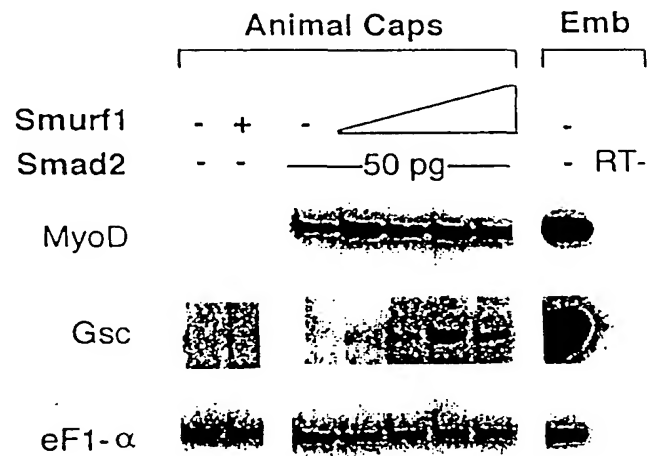


FIG. 8C

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FIG. 9A

10	20	30	40	50
*	*	*	*	*
GGAGGCTCCA	GCATCAAGAT	CCGTCTGACA	GTGTTATGTG	CCAAGAACCT
60	70	80	90	100
*	*	*	*	*
TGCAAAGAAA	GACTTCTTCA	GGCTCCCTGA	CCCTTTTGCA	AAGATTGTGCG
110	120	130	140	150
*	*	*	*	*
TGGATGGGTC	TGGGCAGTGC	CACTCAACCG	ACACTGTGAA	AAACACATTG
160	170	180	190	200
*	*	*	*	*
GACCCAAAGT	GGAACCAGCA	CTATGATCTA	TATGTTGGGA	AAACGGATTG
210	220	230	240	250
*	*	*	*	*
GATAACCATT	AGCGTGTGGA	ACCATAAGAA	AATTCACAAG	AAACAGGGAG
260	270	280	290	300
*	*	*	*	*
CTGGCTTCCT	GGGCTGTGTG	CGGCTGCTCT	CCAATGCCAT	CAGCAGATTA
310	320	330	340	350
*	*	*	*	*
AAAGATACCG	GATACCAGCG	TTTGGATCTA	TGCAAATAA	ACCCCTCAGA
360	370	380	390	400
*	*	*	*	*
TACTGATGCA	GTTCTGTGCC	AGATAGTGGT	CAGTTTACAG	ACACGAGACA

A-----A

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FIG. 9B

A ————— A

410	420	430	440	450
*	*	*	*	*
GAATAGGAAC	CGGCGGCTCG	GTGGTGGACT	GCAGAGGACT	GTTAGAAAAT
460	470	480	490	500
*	*	*	*	*
GAAGGAACGG	TGTATGAAGA	CTCCGGGCCT	GGGAGGCCGC	TCAGCTGCTT
510	520	530	540	550
*	*	*	*	*
CATGGAGGAA	CCAGCCCCTT	ACACAGATAG	CACCGGTGCT	GCTGCTGGAG
560	570	580	590	600
*	*	*	*	*
GAGGGAATTG	CAGGTTCGTG	GAGTCCCCAA	GTCAAGATCA	AAGACTTCAG
610	620	630	640	650
*	*	*	*	*
GCACAGCGGC	TTCGAAACCC	TGATGTGCGA	GGTTCACTAC	AGACGCCCCA
660	670	680	690	700
*	*	*	*	*
GAACCGACCA	CACGGCCACC	AGTCCCCGGA	ACTGCCCCGAA	GGCTACGAAC
710	720	730	740	750

B ————— B

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FIG. 9C

B ————— B

AAAGAACAAC	AGTCCAGGGC	CAAGTTTACT	TTTTGCATAC	ACAGACTGGA
760	770	780	790	800
GTTAGCACGT	GGCACGACCC	CAGGATACCA	AGAGACCTTA	ACAGTGTGAA
810	820	830	840	850
CTGTGATGAA	CTTGGACCAC	TGCCGCCAGG	CTGGGAAGTC	AGAAGTACAG
860	870	880	890	900
TTTCTGGGAG	GATATATTTT	GTAGATCATA	ATAACCGAAC	AACCCAGTTT
910	920	930	940	950
ACAGACCCAA	GGTTACACCA	CATCATGAAT	CACCAGTGCC	AACTCAAGGA
960	970	980	990	1000
GCCCAGCCAG	CCGCTGCCAC	TGCCCAGTGA	GGGCTCTCTG	GAGGACGAGG
1010	1020	1030	1040	1050
AGCTTCCTGC	CCAGAGATAC	GAAAGAGATC	TAGTCCAGAA	GCTGAAAGTC
1060	1070	1080	1090	1100
CTCAGACACG	AACTGTCGCT	TCAGCAGCCC	CAAGCTGGTC	ATTGCCGCAT

C ————— C

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FIG. 9D

C					C
	1110	1120	1130	1140	1150
	*	*	*	*	*
	CGAAGTGTCC	AGAGAAGAAA	TCTTTGAGGA	GTCTTACCGC	CAGATAATGA
	1160	1170	1180	1190	1200
	*	*	*	*	*
	AGATGCGACC	GAAAGACTTG	AAAAAACGGC	TGATGGTGAA	ATTCCGTGGG
	1210	1220	1230	1240	1250
	*	*	*	*	*
	GAAGAAGGTT	TGGATTACGG	TGGTGTGGCC	AGGGAGTGGC	TTTACTTGCT
	1260	1270	1280	1290	1300
	*	*	*	*	*
	GTGCCATGAA	ATGCTGAATC	CTTATTACGG	GCTCTTCCAG	TATTCTACGG
	1310	1320	1330	1340	1350
	*	*	*	*	*
	ACAATATTTA	CATGTTGCAA	ATAAATCCGG	ATTCTTCAAT	CAACCCCGAC
	1360	1370	1380	1390	1400
	*	*	*	*	*
	CACTTGTCTT	ATTTCCACTT	TGTGGGGCGG	ATCATGGGGC	TGGCTGTGTT
	1410	1420	1430	1440	1450
	*	*	*	*	*
D					D

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FIG. 9E

D ————— D

CCATGGACAC TACATCAACG GGGGCTTCAC AGTGCCCTTC TACAAGCAGC

1460 1470 1480 1490 1500
* * * * *

TGCTGGGGAA GCCCATCCAG CTCTCAGATC TGAATCTGT GGACCCAGAG

1510 1520 1530 1540 1550
* * * * *

CTGCATAAGA GCTTGGTGTG GATCCTAGAG AACGACATCA CGCCTGTACT

1560 1570 1580 1590 1600
* * * * *

GGACCACACC TTCTGCGTGG AACACAACGC CTCGGGCGG ATCCTGCAGC

1610 1620 1630 1640 1650
* * * * *

ATGAACTGAA ACCCAATGGC AGAAATGTGC CAGTCACAGA GGAGAATAAG

1660 1670 1680 1690 1700
* * * * *

AAAGAATACG TCCGGTTGTA TGTAAACTGG AGGTTTATGA GAGGAATCGA

1710 1720 1730 1740 1750
* * * * *

AGCCCAGTTC TTAGCTCTGC AGAAGGGGTT CAATGAGCTC ATCCCTCAAC

1760 1770 1780 1790 1800
* * * * *

ATCTGCTGAA GCCTTTTGAC CAGAAGGAAC TGGAGCTGAT CATAGGCGGC

E ————— E

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FIG. 9F

E ————— E

1810 *	1820 *	1830 *	1840 *	1850 *
CTGGATAAAA	TAGACTTGAA	CGACTGGAAG	TCGAACACGC	GGCTGAAGCA
1860 *	1870 *	1880 *	1890 *	1900 *
CTGTGTGGCC	GACAGCAACA	TCGTGCGGTG	GTTCTGGCAA	GCGGTGGAGA
1910 *	1920 *	1930 *	1940 *	1950 *
CGTTCGATGA	AGAAAGGAGG	GCCAGGCTCC	TGCAGTTTGT	GACTGGGTCC
1960 *	1970 *	1980 *	1990 *	2000 *
ACGCGAGTCC	CGCTCCAAGG	CTTCAAGGCT	TTGCAAGGTT	CTACAGGCGC
2010 *	2020 *	2030 *	2040 *	2050 *
GGCAGGGCCC	CGGCTGTTCA	CCATCCACCT	GATAGACGCG	AACACAGACA
2060 *	2070 *	2080 *	2090 *	2100 *
ACCTTCCGAA	GGCCCATACC	TGCTTTAACC	GGATCGACAT	TCCACCATAT
2110 *	2120 *	2130 *	2140 *	2150 *
GAGTCCTATG	AGAAGCTCTA	CGAGAAGCTG	CTGACAGCCG	TGGAGGAGAC
2160 *	2170 *			
CTGCGGGTTT	GCTGTGGAGT	AA		

FIG. 10A

10	20	30	40	50
*	*	*	*	*
GGSSIKIRLT VLCAKNLAKK DFFRLPDPFA KIVVDGSGQC HSTDTVKNTL				
60	70	80	90	100
*	*	*	*	*
DPKWNQHYDL YVGKTDISTI SVWNHKKIHK KQAGFLGCV RLLSNAISRL				
110	120	130	140	150
*	*	*	*	*
KDTGYQRLDL CKLNPSDDTA VRGQIVVSLQ TRDRIGTGS VVDCRGLLEN				
160	170	180	190	200
*	*	*	*	*
EGTVYEDSGP GRPLSCFMEE PAPYTDSTGA AAGGNCRFV ESPSQDQRLQ				
210	220	230	240	250
*	*	*	*	*
AQRLNPDVR GSLQTPQNRP HGHQSPELPE GYEQRTTVQG QVYFLHTQTG				
A-----A				

FIG. 10B

A ———— A

260 * 270 * 280 * 290 * 300 *
VSTWHDPRIP RDLNSVNCDE LGPLPPGWEV RSTVSGRIYF VDHNNRTTQF

310 * 320 * 330 * 340 * 350 *
TDPRLHHIMN HQCQLKEPSQ PLPLPSEGS L EDEELPAQRY ERDLVQKLKV

360 * 370 * 380 * 390 * 400 *
LRHELSQLQP QAGHCRIEVS REEIFEESYR QIMKMRPKDL KKRLMVKFRG

410 * 420 * 430 * 440 * 450 *
EEGLDYGGA REWLYLLCHE MLNPYYGLFQ YSTDNIYMLQ INPDSSINPD

460 * 470 * 480 * 490 * 500 *
HLSYFHFVGR IMGLAVFHGH YINGGFTVPF YKQLLGKPIQ LSDLESVDPE

B ———— B

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FIG. 10C

B ———— B

510	520	530	540	550
*	*	*	*	*

LHKSLVWILE NDITPVL DHT FCVEHNAFGR ILQHELKPNG RNVPTVEENK

560	570	580	590	600
*	*	*	*	*

KEYVRLVNW RFMRGIEAQF LALQKGFNEL IPQHLLKPPD QKELELIIGG

610	620	630	640	650
*	*	*	*	*

LDKIDLNDWK SNTRLKHCVA DSNIVRWFQ AVETFDEERR ARLLQFVTGS

660	670	680	690	700
*	*	*	*	*

TRVPLQGFKALQGSTGAAGP RLFTIHLIDA NTDNLPKAHT CFNRIDIPPY

710	720
*	*

ESYEKLYEKL LTAVEETCGF AVE*

FIG. IIA

10	20	30	40	50
*	*	*	*	*
ATGTCTAACC	CCGGACGCCG	GAGGAACGGG	CCCGTCAAGC	TGCGCCTGAC
60	70	80	90	100
*	*	*	*	*
AGTACTCTGT	GCAAAAAACC	TGGTGAAAAA	GGATTTTTC	CGACTTCCTG
110	120	130	140	150
*	*	*	*	*
ATCCATTTC	TAAGGTGGTG	GTTGATGGAT	CTGGGCAATG	CCATTCTACA
160	170	180	190	200
*	*	*	*	*
GATACTGTGA	AGAATACGCT	TGATCCAAAG	TGGAATCAGC	ATTATGACCT
210	220	230	240	250
*	*	*	*	*
GTATATTGGA	AAGTCTGATT	CAGTTACGAT	CAGTGTATGG	AATCACAAGA
260	270	280	290	300
*	*	*	*	*
AGATCCATAA	GAAACAAGGT	GCTGGATTTC	TCGGTTGTGT	TCGTCTTCTT
A-----A				

FIG. 11C

B									
610	*	620	*	630	*	640	*	650	*
CCTCTTAGCT GCTTTGTTGA TGAGAACACT CCAATTAGTG GAACAAATGG									
660	*	670	*	680	*	690	*	700	*
TGCAACATGT GGACAGTCTT CAGATCCCAG GCTGGCAGAG AGGAGAGTCA									
710	*	720	*	730	*	740	*	750	*
GGTCACAACG ACATAGAAAT TACATGAGCA GAACACATTT ACATACTCCT									
760	*	770	*	780	*	790	*	800	*
CCAGACCTAC CAGAAGGCTA TGAACAGAGG ACAACGCAAC AAGGCCAGGT									
810	*	820	*	830	*	840	*	850	*
GTATTCTTA CATAACACAGA CTGGTGTGAG CACATGGCAT GATCCAAGAG									
860	*	870	*	880	*	890	*	900	*
TGCCCCAGGA TCTTAGCAAC ATCAATTGTG AAGAGCTTGG. TCCATTGCCT									
C									

FIG. 11D

C										C
910	*	920	*	930	*	940	*	950	*	
CCTGGATGGG	AGATCCGTAA	TACGGCAACA	GGCAGAGTTT	ATTTCGTTGA						
960	*	970	*	980	*	990	*	1000	*	
CCATAACAAC	AGAACAAAC	AATTACAGA	TCCTCGGCTG	TCTGCTAACT						
1010	*	1020	*	1030	*	1040	*	1050	*	
TGCATTAGT	TTTAAATCGG	CAGAACCAAT	TGAAAGACCA	ACAGCAACAG						
1060	*	1070	*	1080	*	1090	*	1100	*	
CAAGTGGTAT	CGTTATGTCC	TGATGACACA	GAATGCCTGA	CAGTCCCAAG						
1110	*	1120	*	1130	*	1140	*	1150	*	
GTACAAGCGA	GACCTGGTTC	AGAAACTAAA	AATTTGCGG	CAAGAACTTT						
1160	*	1170	*	1180	*	1190	*	1200	*	
CCCAACAACA	GCCTCAGGCA	GGTCATTGCC	GCATTGAGGT	TTCCAGGGAA						
D										D

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FIG. 11F

E				E			
GCAGATCAAT	CCTGATTCTG	CAGTTAATCC	GGAACATTTA	TCCTATTTC			
1460	1470	1480	1490	1500			
*	*	*	*	*			
ACTTTGTGG	ACGAATAATG	GGAATGGCTG	TGTTTCATGG	ACATTATATT			
1510	1520	1530	1540	1550			
*	*	*	*	*			
GATGGTGGTT	TCACATTGCC	TTTTTATAAG	CAATTGCTTG	GGAAGTCAAT			
1560	1570	1580	1590	1600			
*	*	*	*	*			
TACCTTGGAT	GACATGGAGT	TAGTAGATCC	GGATCTTCAC	AACAGTTTAG			
1610	1620	1630	1640	1650			
*	*	*	*	*			
TGTGGATACT	TGAGAATGAT	ATTACAGGTG	TTTTGGACCA	TACCTTCTGT			
1660	1670	1680	1690	1700			
*	*	*	*	*			
GTTGAACATA	ATGCATATGG	TGAAATTATT	CAGCATGAAC	TTAAACCAAA			
1710	1720	1730	1740	1750			
*	*	*	*	*			
TGGCAAAAGT	ATCCCTGTGA	ATGAAGAAAA	TAAAAAAGAA	TATGTCAGGC			
F				F			

FIG. 11G

F		F	
1760	1770	1780	1790
*	*	*	*
TCTATGTGAA	CTGGAGATT	TTACGAGGCA	TTGAGGCTCA
			ATTCTTGGCT
1810	1820	1830	1840
*	*	*	*
CTGCAGAAAG	GATTTAATGA	AGTAATTCCA	CAACATCTGC
			TGAAGACATT
1860	1870	1880	1890
*	*	*	*
TGATGAGAAG	GAGTTAGAGC	TCATTATTGG	TGGACTTGGG
			AAGATAGATG
1910	1920	1930	1940
*	*	*	*
TTAATGACTG	GAAGGTAAC	ACCCGGTTAA	AACACTGTAC
			ACCAGACAGC
1960	1970	1980	1990
*	*	*	*
AACATTGTCA	AATGGTTCTG	GAAAGCTGTG	GAGTTTTTTG
			ATGAAGAGCG
2010	2020	2030	2040
*	*	*	*
ACGAGCAAGA	TTGCTTCAGT	TTGTGACAGG	ATCCCTCTCGA
			GTGCCCTCTGC
G		G	

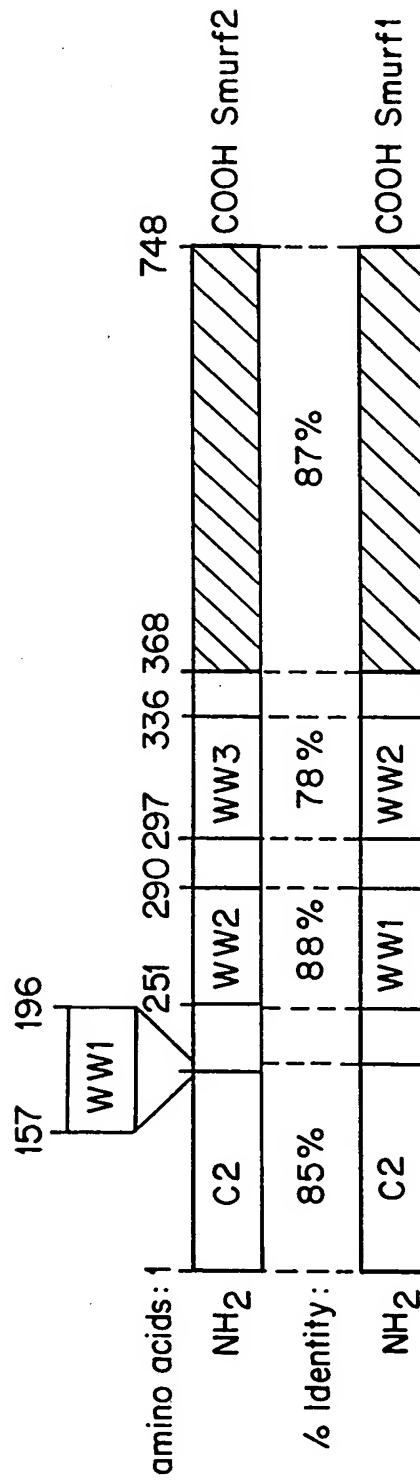
FIG. 11H

G ———— ———— G					
2060	*	2070	*	2080	*
AGGGCTTCAA		AGCATTGCAA		GGTGCTGCAG	
		GCCCCGAGACT		CTTTACCATA	
2110	*	2120	*	2130	*
CACCAGATTG		ATGCCTGCAC		TAACAACCTG	
		CCGAAAGCCC		ACACTTGCTT	
2160	*	2170	*	2180	*
CAATCGAATA		GACATTCCAC		CCTATGAAAG	
		CTATGAAAAG		CTATATGAAA	
2210	*	2220	*	2230	*
AGCTGCTAAC		AGCCATTGAA		GAAACATGTG	
		GATTGCTGT		GGAATGA	

FIG. 12

MSNPGRRRNGPVKRLTLVLCAKNLVKKDFRLLPDPFAKVVDGSGQCHS 49
 TDTVKNTLDPKWNQHYDLYIGKSDSVTISVWNHKKIHKKQGAGFLGCVR 98
 LLSNAINRLKDTGYQRLLDLCKLGPNDNDTVRGQIVVSLQSRDRIGTGGQ 147
 VVDCSRLFDNDLPDGWEEPRRTASGRITQYENHETRIQWERTRPASEYS 196
 SPGRPLSCFVDENTPISGTNGATCGQSSDPRLLAERRVRSQRHRNYSRST 245
 HLHTPPDLPEGYEQRTTQQGGVYELHQQGVSTWHDPRVPRDLSNINCE 294
 ELGPLPPGWEERNATGGRVAVEDENNRIGETDPRLSANLHLVLRNQ 343
 LKDQQQQVVSLCPDDTECLTVPRYKRDLVQKLKILRQELSQQQPQAGH 392
 CRIEVSREEIFFEESYRQVMKMRPKDLWKRLMIKFRGEEGLDYGGVAREW 441
 LYLSSHMLNPYYGLFQYSRDDIYTLQINPDSAVNPEHLSYFHFVGRIM 490
 GMAVFHGHYIDGGFTLPFYKQLLGKSTITLDDMELVDPDLHNSLVWILEN 539
 DITGVLDHTFCVEHNAYGEIIQHELKPNKGSIPVNEENKKEYVRLYVNW 588
 RFLRGIEAQFLALQKGFNEVIPQHLKTFDEKELELIICGLGKIDVNDW 637
 KVNTRLKHCTPPDSNIVKWFWKAVEFFDEERRARLLQFVTGSSRVPLQGF 686
 KALQGAAGPRLFTIHQIDACTNNLPKAHTCFNRIDIPPPYESYEKLYEKL 735
 LTAIEETCGFAVE 748

FIG. 13



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FIG. 14A

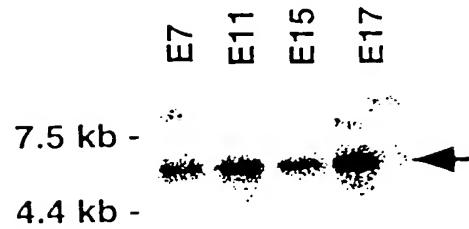
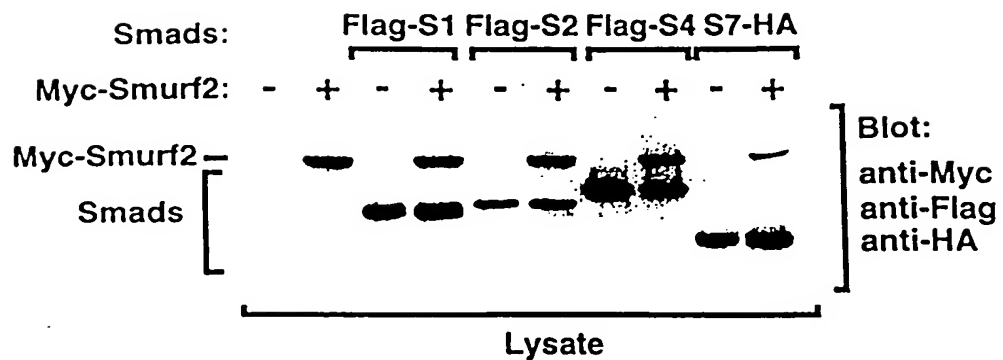
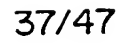


FIG. 14B

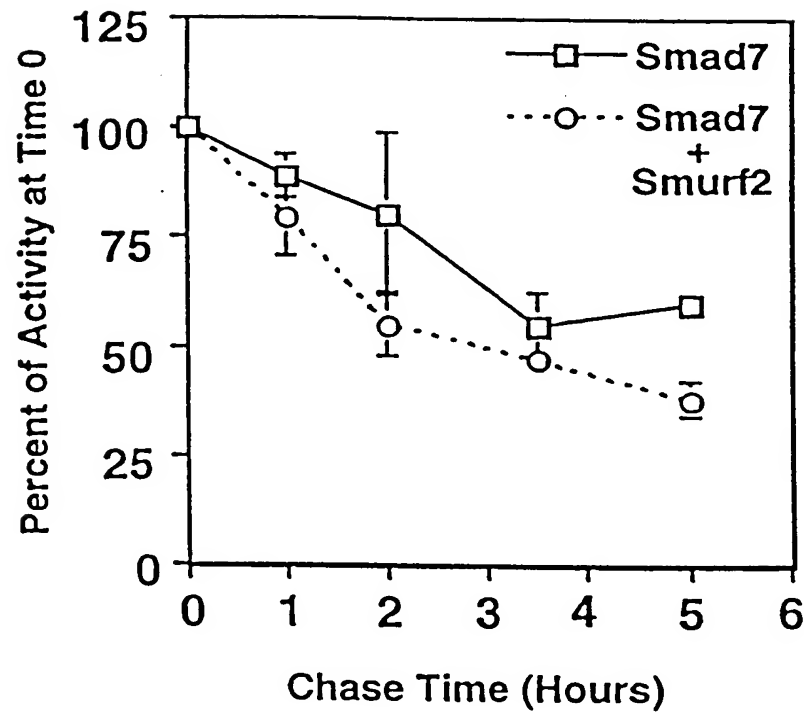
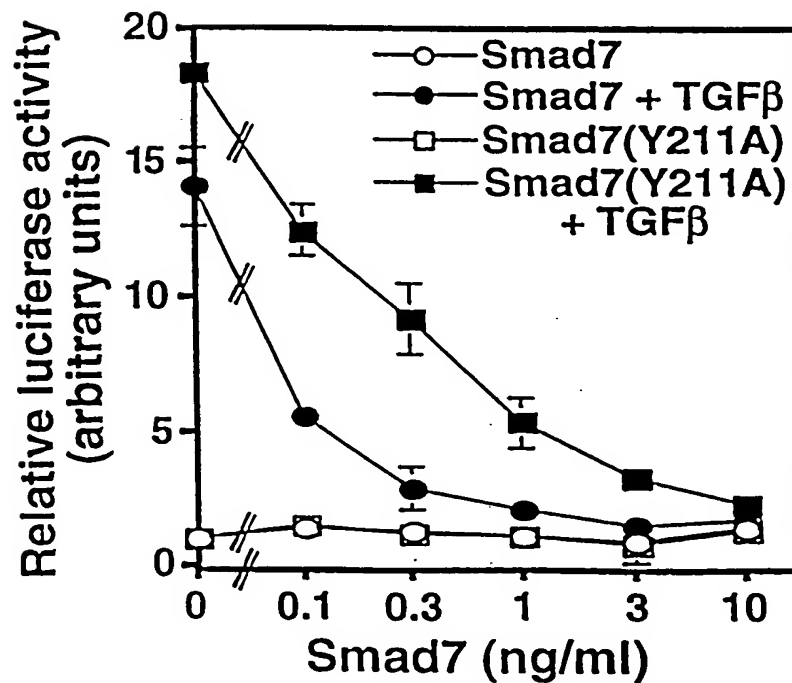


FIG. 15A





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FIG. 15C**FIG. 18C**

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FIG. 15E

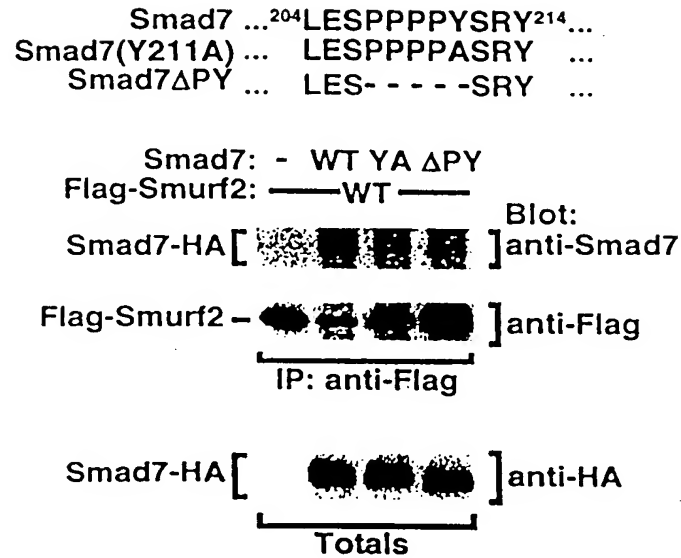
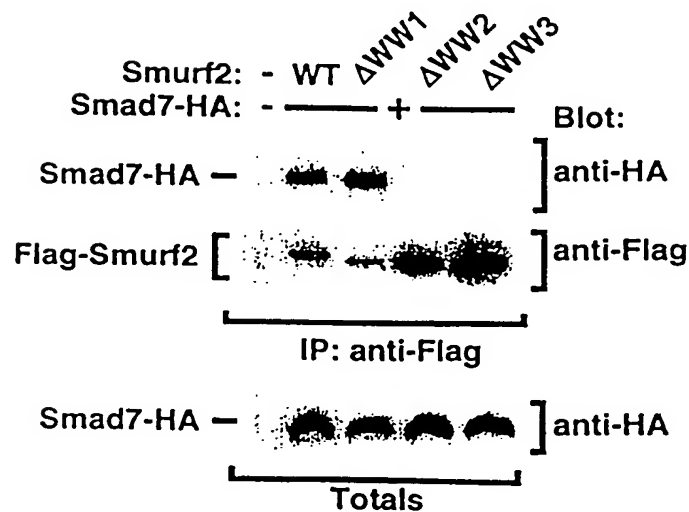
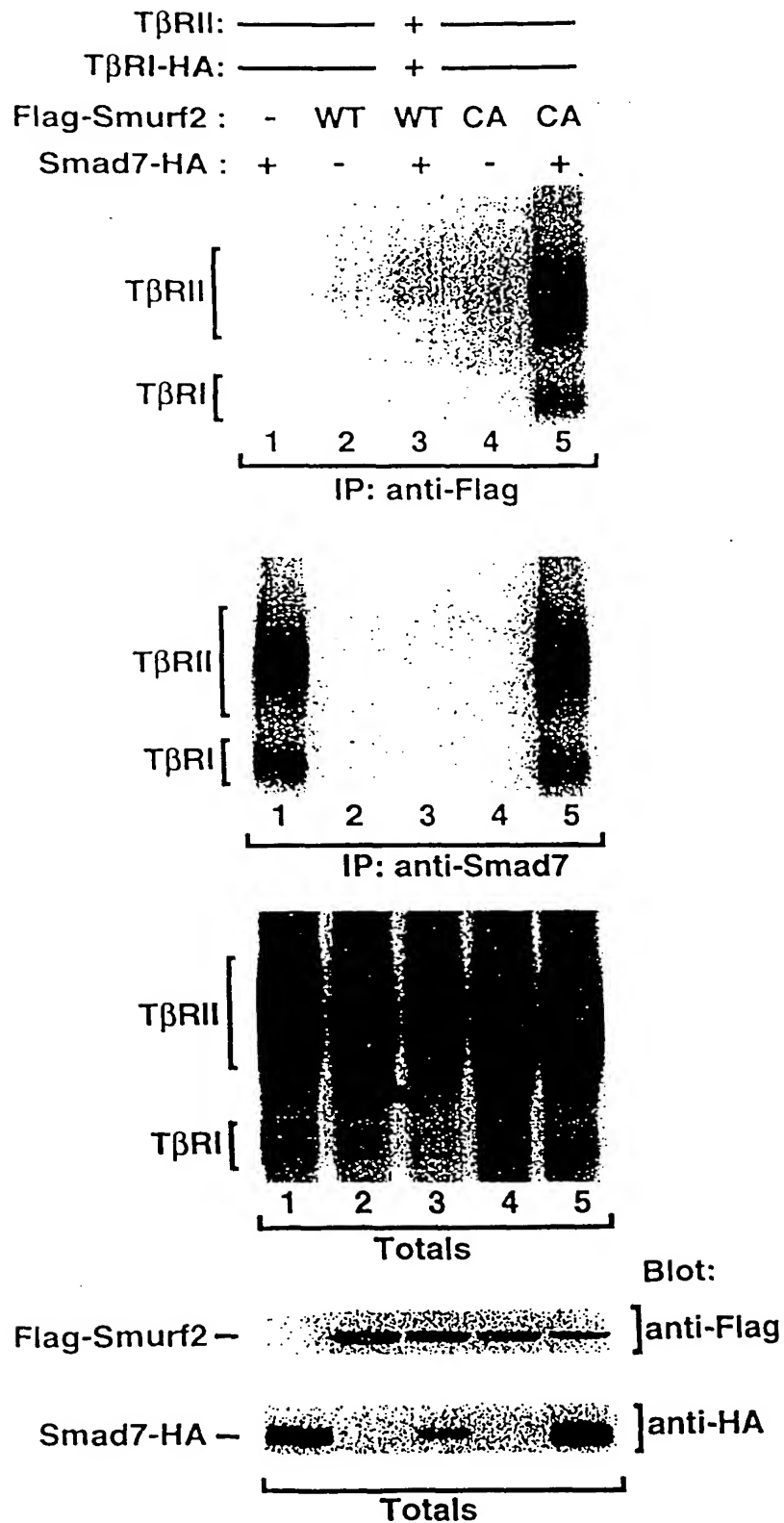


FIG. 15F



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FIG. 16A



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FIG. 16 B

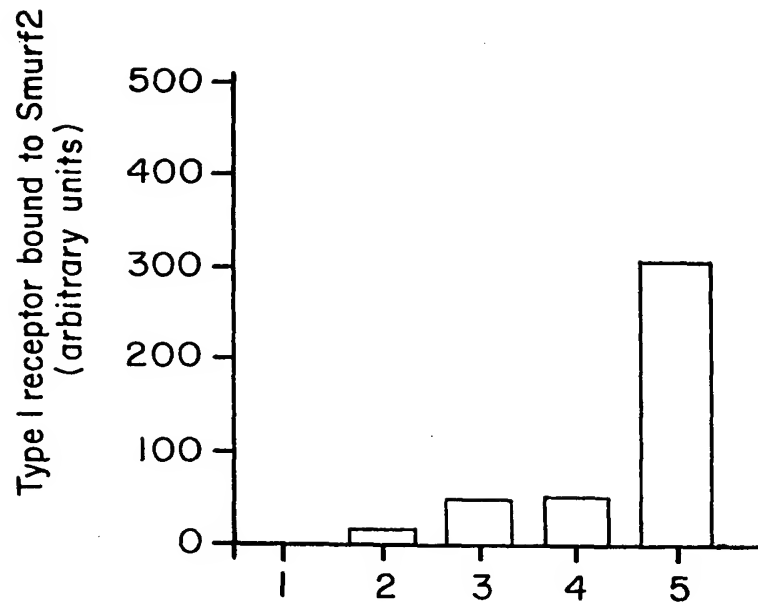
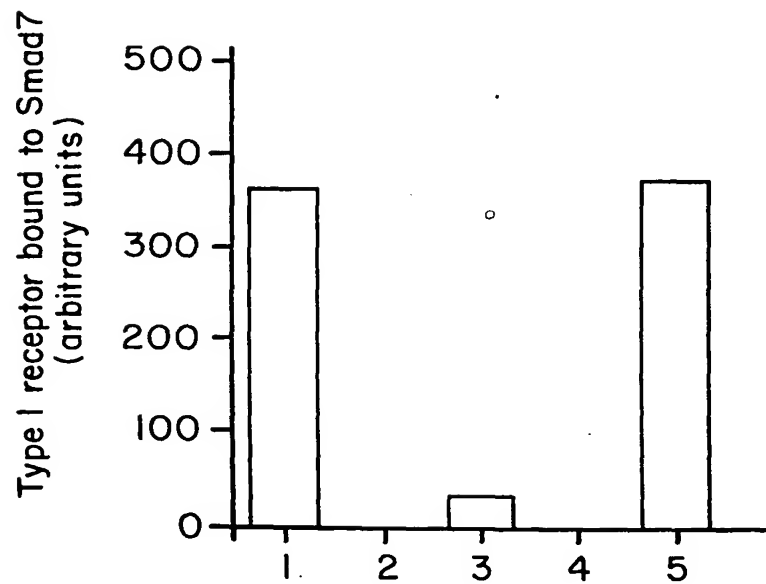


FIG. 16 C



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FIG. 17A

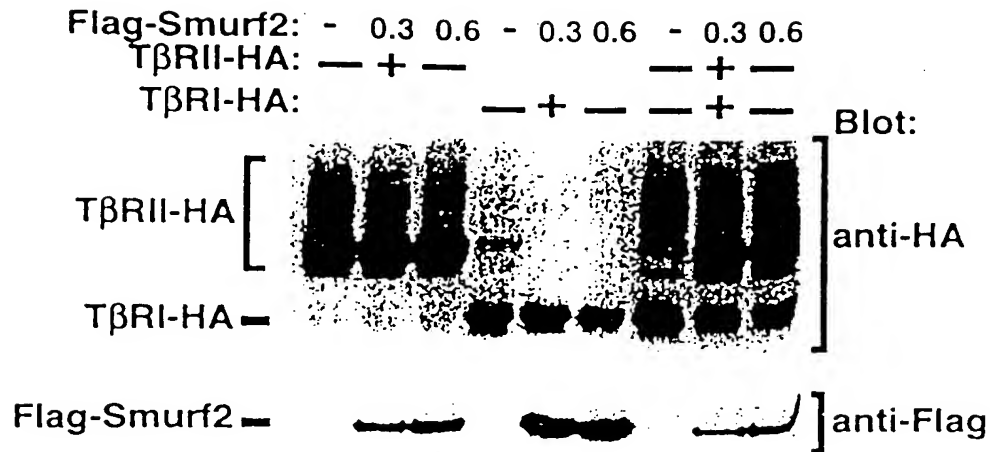
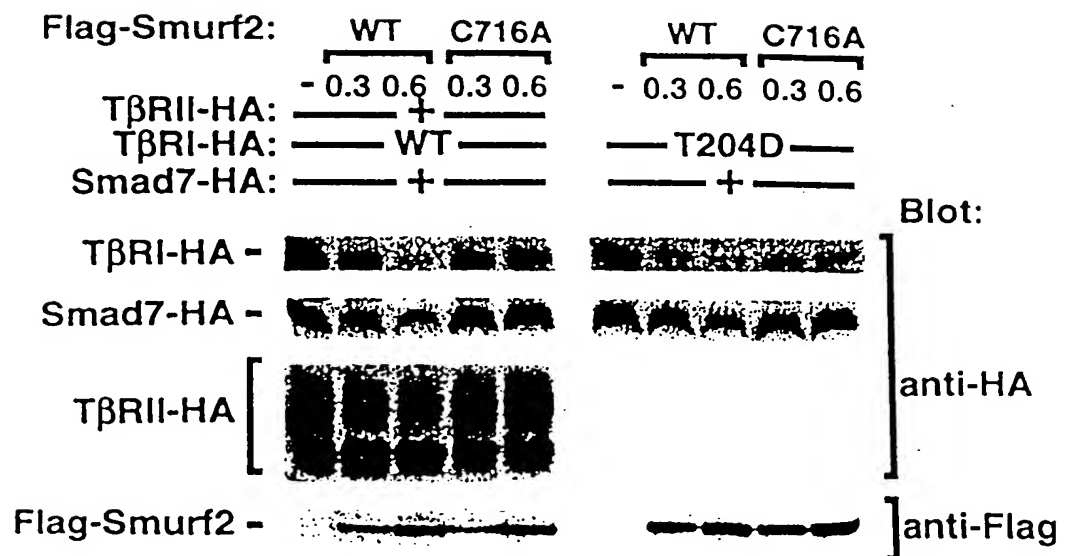


FIG. 17B



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FIG. 17C

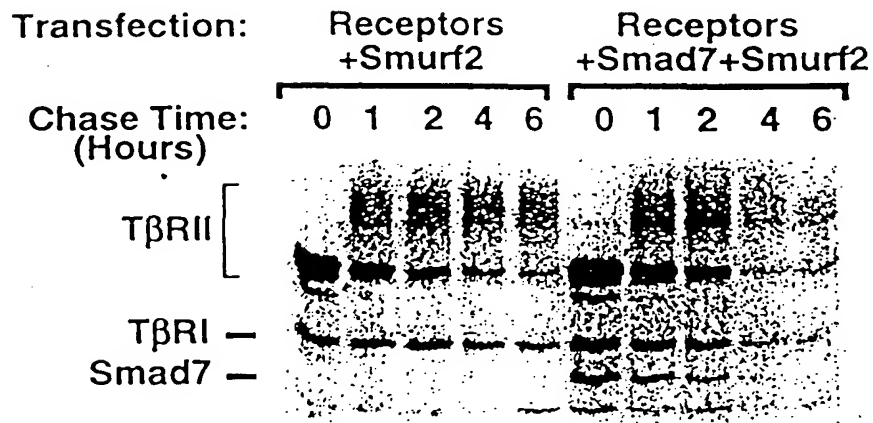
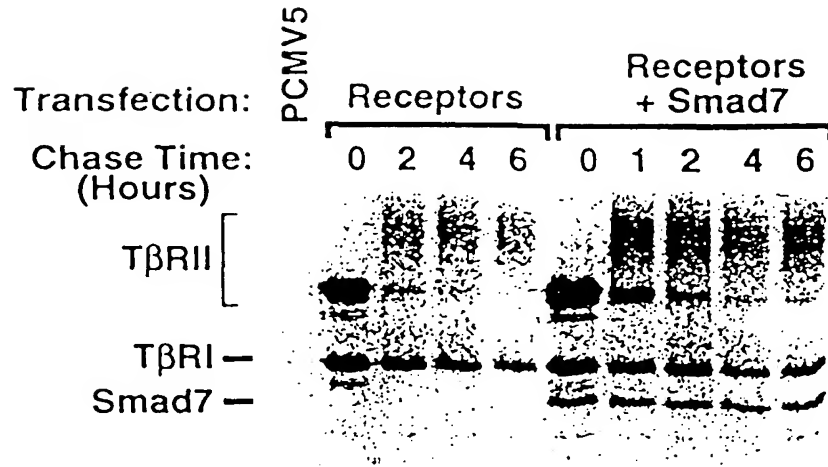
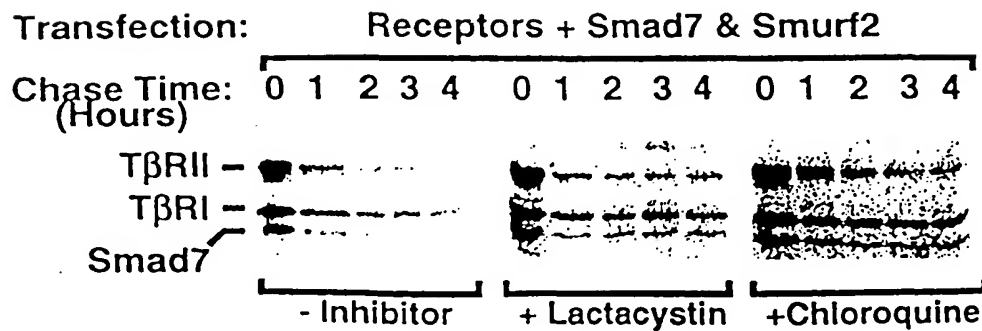


FIG. 17D



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FIG. 17C1

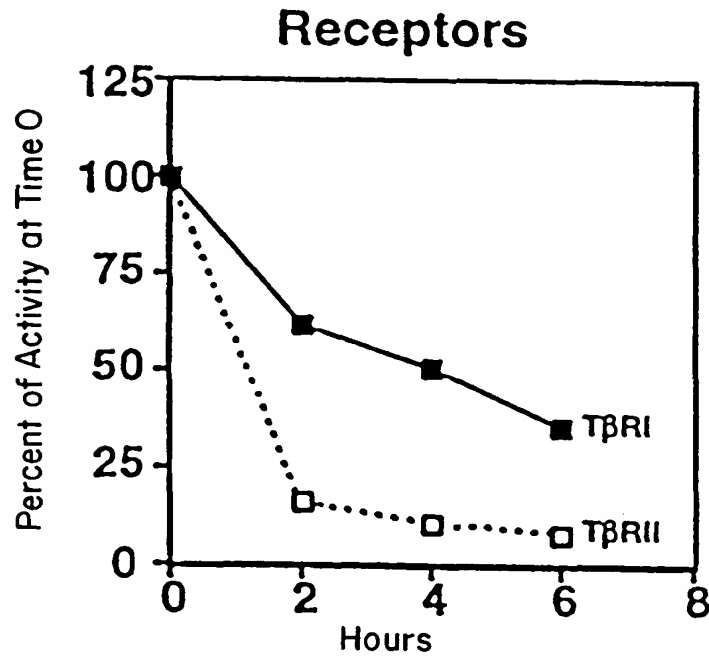
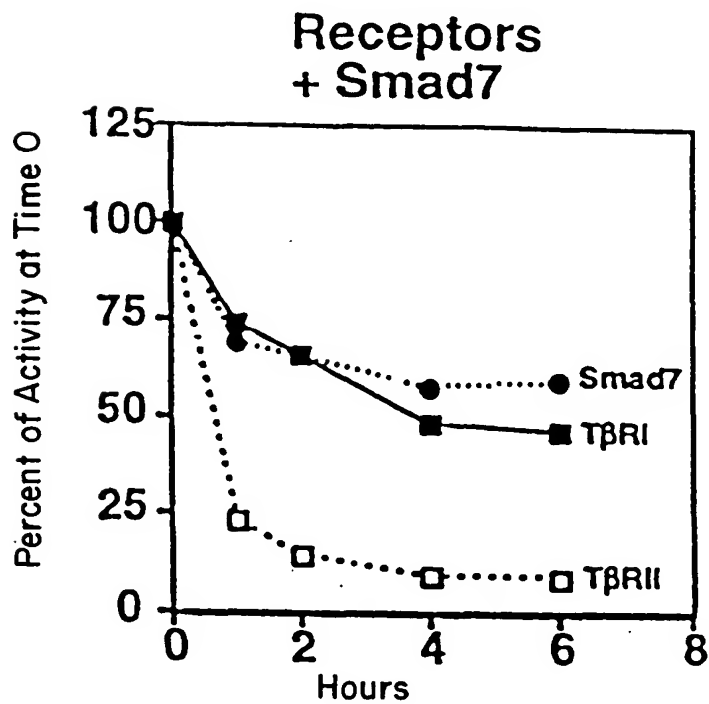


FIG. 17C2



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FIG. 17C3

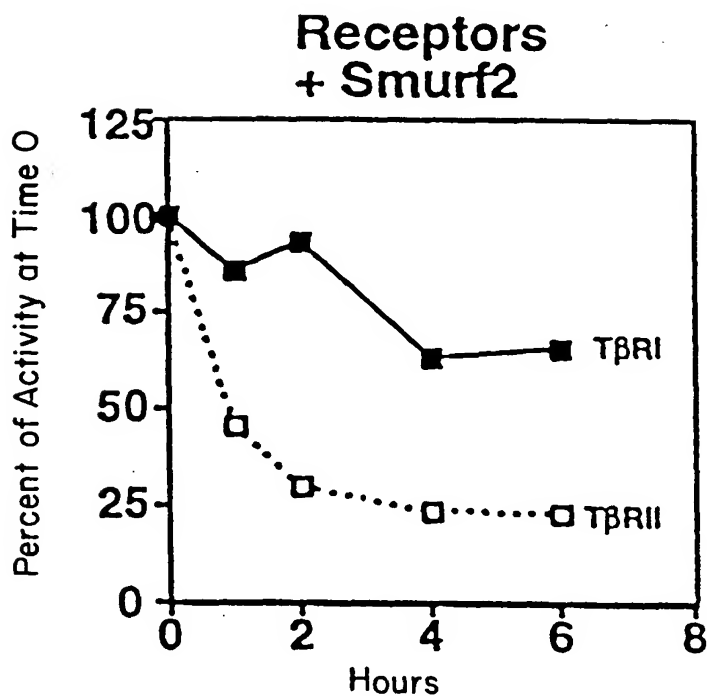
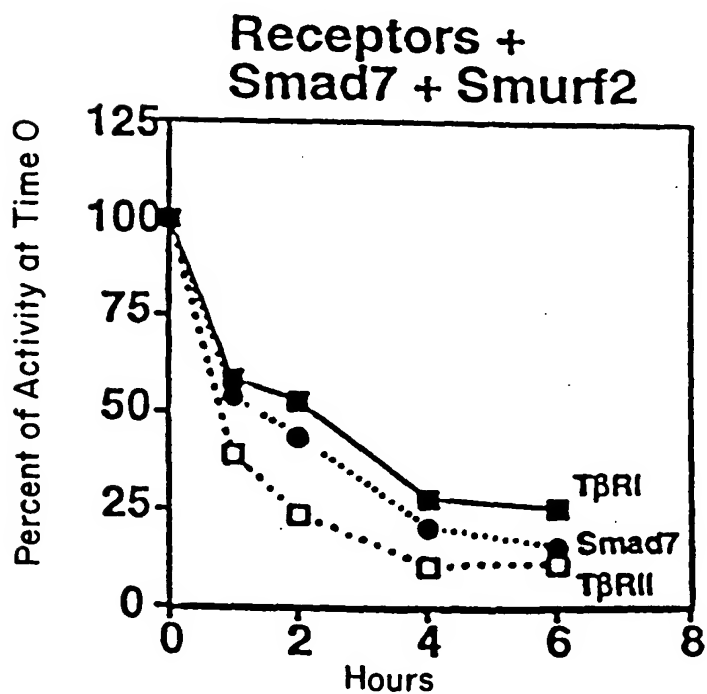


FIG. 17C4



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FIG. 17E

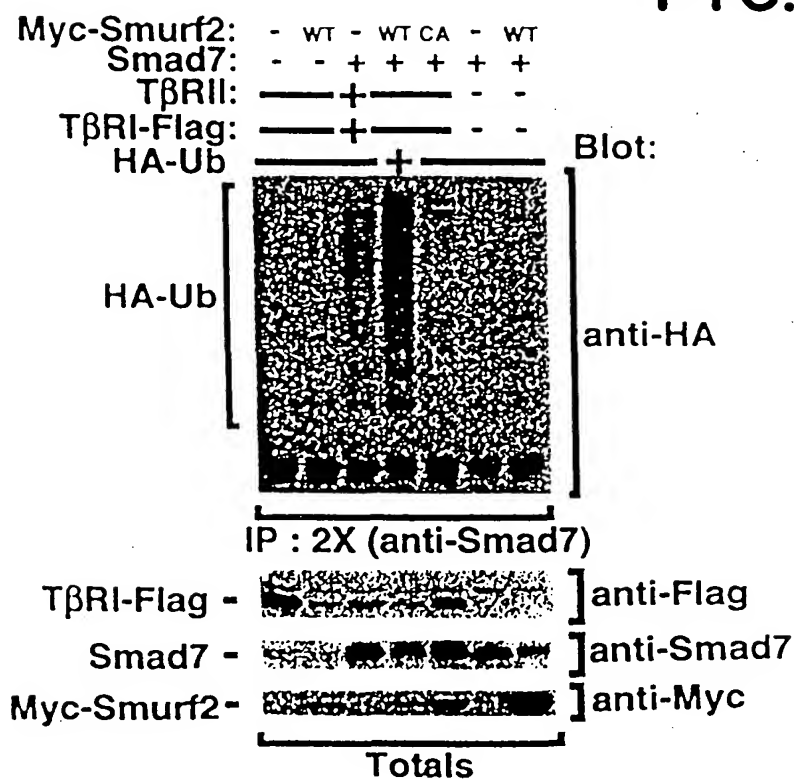
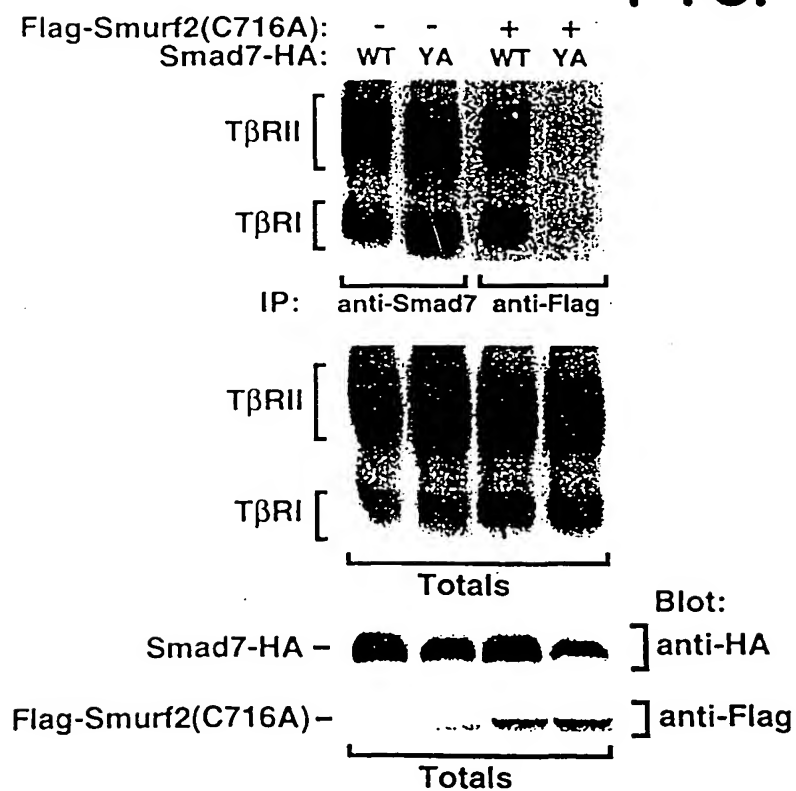
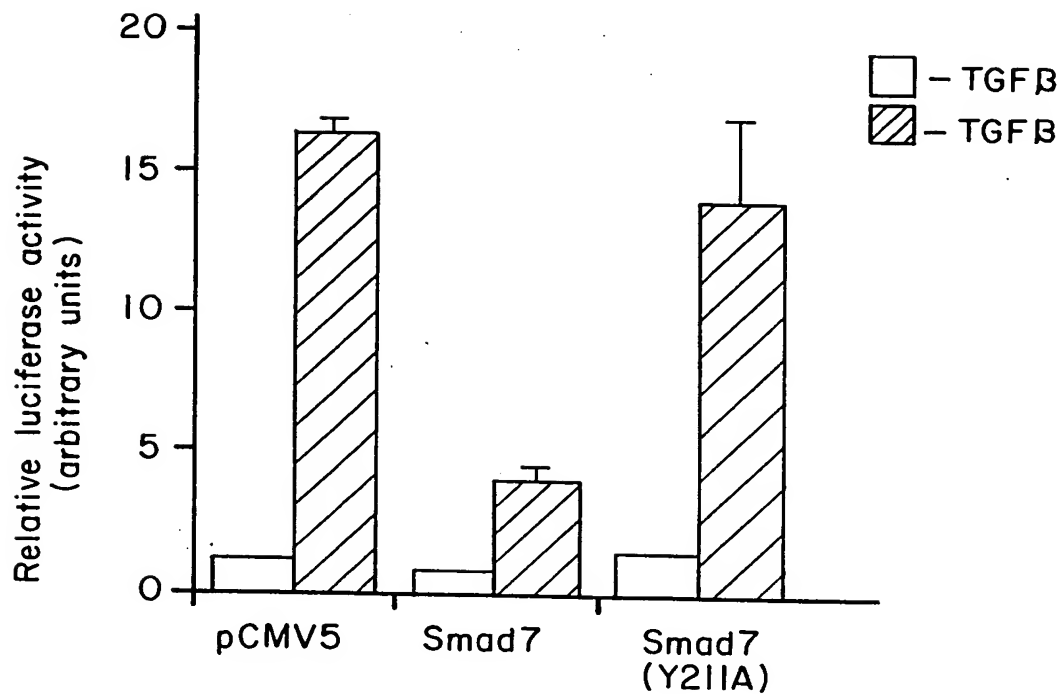


FIG. 18A



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FIG. 18B**FIG. 18D**